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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,755	12/14/2000	Slim Souissi	PF2006NA	8061

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EXAMINER

WARE, CICELY Q

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 08/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/736,755

Applicant(s)

SOUISSI ET AL.

Examiner

Cicely Ware

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-16 is/are rejected.
7) ☒ Claim(s) 17-19 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 28 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 2, 7-10 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Adachi (US Patent 6,256,334) (cited by applicant).

(1) With regard to claim 1, Adachi discloses a data communication system comprising: a plurality of radio devices communicating together in groups defining networks, at least certain member devices of the networks transmitting on the respective said network during time slots and at radio frequencies determined by a frequency hopping sequence (abstract); wherein at least two of said groups having different frequency hopping sequences are sufficiently related that messages

transmitted by at least two of the member devices can collide by causing at least one of co-channel and related channel interference between messages of the at least two said groups (col. 3, lines 13-20, col. 5, lines 5-16); wherein at least one of the devices compares the different radio frequency hopping sequences of the at least two said groups and identifies time slots at which said sequences coincide sufficiently to produce said interference(col. 5, lines 6-16), and wherein at least one of said networks alters its behavior during the time slots at which the sequences coincide sufficiently to produce said interference, in a manner that reduces one of an incidence and an effect of collisions during the time slots when the sequences collide (col. 6, lines 60-67, col. 7, lines 1-3).

It is inherent to one of ordinary skill in the art to compare the frequency hopping sequences of neighboring groups to ensure the reliability on the reuse.

(2) With regard to claim 2, claim 2 inherits all the limitations of claim 1. Adachi further discloses wherein the groups having different frequency hopping sequences are sufficiently close in at least one of physical proximity and signal strength to produce said collisions (col. 3, lines 13-20).

(3) With regard to claim 7, claim 7 inherits all the limitations of claim 1. Adachi further discloses a method of avoiding collisions wherein at least one of the networks that alters its behavior is chosen according to a priority repetitively based upon a comparison of operational criteria of the networks (col. 6, lines 53-59).

(4) With regard to claim 8, claim 8 inherits all the limitations of claim 7. Adachi further discloses wherein the priority is accorded anew for each of the time slots at

which the sequences coincide (col. 6, lines 60-67, col. 7, lines 1-3, 66-67, col. 8, lines 1-5).

(5) With regard to claim 9, claim 9 inherits all the limitations of claim 7. Adachi further discloses the priority is accorded based on a comparison of the devices and the networks for at least one of: a power level of transmissions in at least one direction between the devices, an interference level of said transmissions, an error level of the transmissions, a data throughput of the respective networks, a battery condition, a message latency, a number of previous attempts to transmit, a capture effectiveness, message urgency, terms of a subscription and device type (col. 6, lines 28-34, 45-51)

(6) With regard to claim 10, claim 10 inherits all the limitations of claim 9. Adachi further discloses wherein priority is accorded in a manner tending to optimize data throughput for the devices on all the networks (col. 6, lines 53-59, col. 8, lines 44-54).

(7) With regard to claim 12, Adachi discloses a base station apparatus for a radio-communications network using a plurality of peer devices comprising the steps of: establishing wireless frequency hopping communications between two or more of the devices such that a plurality of the devices associated as members of a first wireless network are synchronized to time slots and operable to step through a predetermined frequency hopping sequence (abstract, col. 1, lines 22-32, col. 2, lines 2-7, 29-30, col. 3, lines 52-57); establishing wireless frequency hopping communications between two or more of the devices such that a different plurality of the devices are similarly associated as members of a second wireless network operable to step through a different predetermined frequency hopping sequence, wherein the frequency hopping

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sequences of the first and second wireless networks differ but can coincide in particular time slots (col. 2, lines 20-24, 29-30, 46-55, col. 3, lines 9-18); comparing the frequency hopping sequences of the first and second wireless networks over a prediction interval and identifying time slots in which said frequency hopping sequences coincide (col. 4, lines 20-35); altering a behavior of at least one of the first and second wireless networks such that one of the first and second wireless networks has improved ability to receive during said time slots in which the frequency hopping sequences coincide (col. 4, lines 60-67, col. 5, lines 1-5, 42-53).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi (US Patent 6,256,334) (cited by applicant) as applied to claim 1 above, in view of Poyhonen (US Patent 5,570,352) (cited by applicant).

(1) With regard to claim 5, claim 5, inherits all the limitations of claim 1. However Adachi does not disclose least one of the networks that alters its behavior abstains from transmitting during the time slots at which the sequences collide.

However Poyhonen discloses wherein at least one of the networks that alters its behavior abstains from transmitting during the time slots at which the sequences collide (col. 7, lines 15-28).

Therefore it would have been obvious to one of ordinary skill in the art to modify Adachi to incorporate wherein at least one of the networks that alters its behavior abstains from transmitting during the time slots at which the sequences collide in order to control a handover process when the mobile station is in an active state (Poyhonen col. 4, lines 62-63).

(2) With regard to claim 6, claim 6 inherits all the limitations of claim 1. Poyhonen further discloses wherein at least one of the networks that alters its behavior changes at least one of transmission power and error correction level, during the time slots at which the sequences collide (col. 7, lines 15-28).

5. Claims 3, 4, 11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi (US Patent 6,256,334) (cited by applicant) as applied to claims 1, 2 and 12 above, in view of Tony et al. (US Application 2001/0002912 A1).

(1) With regard to claim 3, claim 3 inherits all the limitations of claim 1. However Adachi does not wherein each of the networks comprises a master device and at least one slave device, wherein the master device determines the radio frequency hopping sequence for the network, observed by the master device and at least one slave device.

However Tony et al. discloses a digital wireless communication system comprising a master device and at least one slave device, wherein the master device

determines the radio frequency hopping sequence for the network, observed by the master device and at least one slave device (Pg. 1, col. 2, lines 26-29, 39-41).

Therefore it would have been obvious to one of ordinary skill in the art to modify Adachi to specify that each of the networks comprise a master device and at least one slave device, wherein the master device determines the radio frequency hopping sequence for the network, observed by the master device and at least one slave device for faster hopping and the use shorter data packets.

(2) With regard to claim 4, claim 4 inherits all the limitations of claim 2. Tony et al. further discloses wherein the devices have unique addresses and the radio frequency hopping sequence for each said network is derived from the unique address of the master device of said network (Pg. 1, col. 2, lines 56-58, Pg. 2, col. 1, lines 44-55).

(3) With regard to claim 11, claim 11 inherits all the limitations of claim 1. Tony et al. further discloses wherein the network is configured according to at least one of IEEE standard 802.11, a Bluetooth scatter network, a Home RF network and a Metricom Ricochet network (Pg.1, col. 1, lines 30-36).

(4) With regard to claim 13, claim 13 inherits all the limitations of claim 12. Tony et al. further discloses a digital wireless communication system wherein the priorities are assigned by at least one master device synchronizing one of the networks (Pg. 1, col. 2, lines 46-48, 54-57).

(5) With regard to claim 14, claim 14 inherits all the limitations of claim 12. Tony et al. further disclose wherein at least some of the devices are mobile devices operable

to join and to depart said wireless networks from time to time (Pg. 3, col. 2, lines 57-60, Pg. 4, col. 1, lines 4-9, 22-23).

6. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi (US Patent 6,256,334) in combination with Tony et al. (US Application 2001/0002912 A1) as applied to claim 13, in further view of Poyhonen (US Patent 5,570,352).

(1) With regard to claim 15, claim 15 inherits all the limitations of claim 13. Adachi in combination with Tony et al. disclose all the limitations of claim 13. However Adachi in combination with Tony et al. do not disclose wherein the at least one master is operable to cause an associated at least one of the first and second networks to abstain from communicating during said time slots in which the frequency hopping sequences coincide.

However Poyhonen discloses a digital cellular network wherein at least one master is operable to cause an associated one of the first and second networks to abstain from communicating during time slots in which the frequency hopping sequences coincide (col. 4, 46-61, col. 7, lines 15-28).

Therefore it would have been obvious to one of ordinary skill in the art to modify the inventions of Adachi in combination with Tony et al. to disclose wherein at least one master is operable to cause an associated one of the first and second networks to abstain from communicating during time slots in which the frequency hopping

sequences coincide in order to control a handover process when the mobile station is in an active state (Poyhonen col. 4, lines 62-63).

(2) With regard to claim 16, claim 16 inherits all the limitations of claim 13.

Poyhonen further discloses wherein that at least one controller is operable to cause an associated at least one of the first and second networks to alter its behavior by at least one of abstinence and a change of at least one of transmission power and error correction level during time slots in which the frequency hopping sequences coincide (col. 4, 46-61, col. 7, lines 15-28).

Allowable Subject Matter

7. Claims 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 703-305-8326. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
July 8, 2004



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